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AUTHOR Ehrenreich, Zachary; Knafle, June D.
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ABSTRACT

Working on the hypothesis that if readers had several alternative correct meanings of a given text set before them they would select the one in accordance with their abstract abilities and intellectual maturity, a study investigated the measurement of levels of meaning as illustrated in taxonomies and focused on the applicability of the taxonomies to various levels of reading ability. Sixty-three eleventh grade students reading at high, middle, and low levels read a selection from "Tom Sawyer" silently and were asked to choose the best of three answers for each of six multiple choice questions. The answers to the questions were formulated at each of three levels: abstract, functional, and concrete. Abstract comprehension represented a style in which the reader got a broader scope of the information by distinguishing between specific features of a reading selection; functional comprehension represented a style that discriminated specifics of the selection; and concrete comprehension represented a style in which the reader discriminated only factual details and no more. Results showed that the high reading-level group chose the abstract answer for 71% of the choices, functional 15%, and concrete 14%. The middle reading group chose the abstract answer for 56% of their choices, functional 26%, and concrete 14%. The low reading group chose the abstract answer for 34% of their choices, functional 32% and concrete 34%. (HOD)

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ZACHARY EHRENREICH
New York Public Schools

JUNE D. KNAFLE
University of Illinois
at Chicago

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LEVELS OF MEANING IN READING COMPREHENSION OF HIGH SCHOOL STUDENTS

Research evidence for developmental stages of higher level comprehension skills is difficult to find, as is evidence on the role of levels of thinking and meaning in understanding complex reading material. Speculation concerning qualitative levels of thinking is usually related to Piaget's theories concerning stages in concept formation. Although various kinds of taxonomies related to reading comprehension and thinking processes have been developed, the authors generally provide only descriptions and examples of the categories, not data. And although levels of cognitive abilities in reading have been discussed by a number of researchers from a variety of perspectives (e.g., Gray & Rogers, 1956; Sargent, Huus, & Andresen, 1970; Pearson, 1976; Tierney, 1978), research data on

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the hierarchical relationship of the levels or categories are generally lacking. (A notable exception is Lundsteen, 1974.) Bormuth (1970) has claimed that when assessing complex cognitive behaviors, the test writers' identifications of patterns are entirely products of their own introspection. He stated that it was the item writer himself who determined what thinking patterns the students must use to master specific content, so he thus viewed the process as subjective on the part of the test item writer and consequently not consistent.

This study investigated the measurement of levels of meaning as illustrated in taxonomies and focused on the applicability of taxonomies to various levels of reading ability. The three levels of meaning used were abstract, functional, and concrete (derived from Lundsteen and Michael's study of 1966). It was hypothesized that if readers had several alternative correct meanings of a given text set before them, they would select the one in accordance with their abstract abilities and intellectual maturity. It was expected that students who were above average in reading would select abstract meanings rather than lower level meanings on a consistent basis. It was also expected that students reading at lower reading levels would choose answers from functional and concrete levels.

METHOD

Students read a selection from Tom Sawyer silently and were asked to choose the best (of three) answer for each question. Students read the passage (1425 words, 8th-9th grade readability) and answered the six questions during a single class period. The

multiple choice answers were formulated at each of the three levels (abstract, functional, and concrete). Abstract comprehension represents a style in which the reader gets a broader scope of the information by distinguishing between specific features of a reading selection. More than that, comprehension of the material is not individualized or limited; rather, it is applicable to the larger society. The abstract reader can take issues from context and apply them to other situations. Functional comprehension represents a style which discriminates specifics in a more limited way than with abstract comprehension; the reader does not generalize beyond the specifics of the selection. Concrete comprehension represents a style in which the reader discriminates only factual details and no more. An example of the three types of answers (all correct) follows: Question: How would you describe Sid?; Abstract answer: As naive and simplistic; Functional answer: At first lazy and then excited in his attempt to get help; Concrete answer: Sid slept on unconscious. (Concrete answers were always taken directly from the text.) There were six questions, and the position (first, second, or third) of each type of answer was arranged so that each type appeared in each position an equal number of times. For example, abstract answers appeared in the first position twice, in the second position twice, and in the third position twice.

Students were chosen from the high, middle, and low reading levels. Eleventh graders were used; high reading levels were 12.1 and above, middle reading levels were 9.0 to 10.3, and low reading levels were 5.2 to 7.1 (Gates-MacGinitie reading test, level F,

form 2M). There were 63 students, 31 males and 32 females, from a Chicago area school. Each group had 21 students (high: 10 males, 11 females; middle: 11 males, 10 females; low: 10 males, 11 females).

FINDINGS

A Friedman analysis of variance by ranks was computed for each of the three groups, high, middle, and low reading levels, to determine whether there was significant variation among the use of the three answer types. Differences among the three answer types were significant for the high reading level group ($\chi^2 = 28.13$, df = 2, $p < .001$) and for the middle reading level group ($\chi^2 = 17.36$, df = 2, $p < .001$), but not for the low reading level group ($\chi^2 = .13$, df = 2, n.s.). Specific comparisons were made with Nemenyi's test, which revealed that for the high reading level group abstract answers were chosen significantly more often ($p < .001$) than either the functional or concrete answers; differences between the functional and concrete were not significant. For the middle reading level group, abstract answers were also chosen significantly more often ($p < .001$) than either the functional or concrete answers; functional answers were chosen significantly more often ($p < .05$) than concrete answers.

Examination of the percentage of response choices shows that the high reading level group chose the abstract answer for 71% of their choices, functional 15%, and concrete 14%. The middle reading group chose the abstract answer for 56% of their choices, functional 26%, and concrete 14%. The low reading group chose the abstract answer for 34% of their choices, functional 32%, and concrete 34%.

DISCUSSION

The very clear pattern which emerged from this study, with the high reading group selecting the highest proportion of abstract answers, with the middle reading group somewhat fewer, and low reading group the least seems to indicate that a student's ability to choose beyond the factual in multiple choice answers depends largely on his or her reading abilities. The fact that the low reading group chose from each of the three categories with no apparent consistency would seem to indicate that students with deficiencies in reading will choose answers without regarding the relative appropriateness of answers with respect to the questions at hand. It is interesting to speculate on possible reasons for this performance. Perhaps low reading students do not spend the time to consider the internal logic of the question or the answer to be chosen. Perhaps if a student spends too much time decoding sentences then he or she might miss the subtle quality of what is being expressed and will also spend less time in choosing thoughtful and quality answers. (The performance of the lower level readers brings to mind the type of intelligence test question wherein the child who says that an apple and an orange are both round is not given as much credit as the child who says they are both fruit.) Conversely, higher level reading students who easily comprehend the narrative events, actions, and thoughts described in a given text may be able to spend their time on the subtleties of the author. Of related interest is a finding by Palmer, Slater, and Graves (1980) that higher level readers' use of the author's

schema was more effective than that of lower level readers.

The next and most obvious question that emerges from this study is whether (and how) the eliciting of abstract information from text can be taught to students who do not possess this skill. It would also be interesting to assess younger students' abilities to choose answers of varying levels of abstractness to see whether there are developmental differences apart from reading ability.

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